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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/828,843	04/10/2001	Min-Chieh Tsai	ACR0025-US	6948

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EXAMINER

LEFLORE, LAUREL E

ART UNIT	PAPER NUMBER
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2673

DATE MAILED: 01/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/828,843

Applicant(s)

TSAI ET AL.

Examiner

Laurel E LeFlore

Art Unit

2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 April 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

DETAILED ACTION

Drawings

1. The drawings are objected to because in figure 2, steps 21 and 22, "deactevated" should be "deactivated". In step 23, "actevated" should be "activated". A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities:

On page 2, line 13, "exits" should be "exists".

On page 3, line 10, "form" should be "from".

On page 5, lines 16-17, 20, 22 and 27, and on page 6, line 2, "display window 17" should be "display window 15".

Appropriate correction is required.

Claim Objections

3. Claims 13 and 15 objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 13 and 15 appear to be dependent on themselves. For the purposes of examination, the claims will be treated as if independent, since it is unclear as to which independent claim they are intended to further limit.

4. Claims 7 and 14 are objected to because of the following informalities: Claim 14 is a duplicate of claim 7. Also, in the third line of both claims, "dirrerent" should be "different". Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-6, 9, 11-13 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swartz et al. 5,524,861 in view of Vaisanen et al. 6,560,443 B1.

In regard to claims 1 and 11, Swartz et al. discloses a key switch system for switching in a cyclic pattern between modes of a computer. See column 5, lines 38-40, disclosing, "repeated activation of one of the four function keys might cycle the keyboard 13 through a numeric mode and one or more alphabetic modes." Also see figure 1B, depicting the keypad 13. See column 5, lines 7-11, disclosing, that the keypad 13 is part of a computer system. Thus, Swartz et al. discloses that the key switch system comprises a function key, mounted on the computer, wherein cyclic switching between the modes is enacted by the depression of the function key.

The function key generates an interrupt signal after depression. See column 5, lines 35-38, disclosing, "The alphanumeric values assigned to each

key, alone or in combination with one or more of the function keys can be programmed into the data processor and the keyboard.” Also see column 3, lines 22-24, disclosing, “Cable connections 42 are provided for the various signal communications between the data processor unit 41 and the keyboard 43.” Further see column 5, lines 6-11, disclosing that the housing 11 of figure 1B includes keypad 13 (with the cycling function keys) and processor 41. Thus, it is disclosed that signals are generated by the keypad and transmitted on cable connections 42 to a processor 41. It is inherent that interrupt signal would be included in these signals.

Swartz et al. further discloses software for activating and deactivating the modes according to the signal. Again see column 5, lines 36-39, disclosing, “one or more of the function keys can be programmed into the data processor and the keyboard”. Such programming is software. Also, one mode is activated at a time, since “repeated activation...might cycle the keyboard 13” through the various modes.

Swartz et al. further discloses a display window for displaying the activated/deactivated status of the modes. See column 5, lines 43-45, disclosing that “the LCD display might provide an indication of the current keyboard mode.”

Swartz et al. does not disclose that key switch system cycles between modes including a IEEE802.11 wireless communication apparatus and a bluetooth wireless communication apparatus. Vaisanen et al. discloses switching circuitry for switching between IEEE802.11 and bluetooth wireless

communication protocols. See column 4, lines 43-52, disclosing, "the invention calls for a switching scheme for diversity antennae in a multi-transceiver mobile terminal where one such transceiver may be a WLAN conforming to the IEEE 802.11 standard for DSSS radio communication and the other may be a relatively lower power/lower range radio operating on the same ISM radio band as the WLAN such as conforming to Bluetooth radio, although not limited thereto. In accordance with this scheme, the dual transceivers are not required to operate at the same time." Vaisanen et al. further teaches in column 4, lines 21-24, that such switching is done "to overcome any inherent problem directed to ...antennae switching and pertaining to the filter chains associated with a WLAN/BT dual mode hand-held terminal" and in column 3, lines 48-50, "to effect a substantially interference-free switching circuitry for sharing a pair of diversity antennae in a multi-transceiver mobile terminal".

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the inventions of Swartz et al. and Vaisanen et al. in order to have a function key that switches between IEEE802.11 and bluetooth wireless communication apparatus. One would have been motivated to combine the two inventions in order to "effect a substantially interference-free switching circuitry for sharing a pair of diversity antennae in a multi-transceiver mobile terminal", as taught by Vaisanen, and have such switching be user-controlled. Also, function keys for user-controlled switching between various modes of a computer, such as the ones disclosed by Swartz, are conventional

and thus having a function key for switching between wireless communication modes, including activating IEEE802.11 protocol wireless communication, activating bluetooth protocol wireless communication, and deactivating both would conform with conventional use of a function key.

7. In regard to claim 2, Swartz et al. in view of Vaisanen et al. disclose that at least one of the wireless communication apparatuses is incompatible with another one of the communication apparatuses. See column 2, lines 54-60 of Vaisanen et al., disclosing, "combining a low power short range 2.4 GHz ISM radio band device like a BT [bluetooth] radio and a substantially higher power level WLAN device, like the 802.11 DSS radio, into a small sized hand-held terminal, has several drawbacks, namely, interference, resulting from sharing of antennae, filters and other components." Also see column 1, lines 18-26, disclosing that both communication protocols use the same 2.4 GHz ISM band. Thus, the two are incompatible with each other.
8. In regard to claims 3-6, 9, 12, 13 and 16, see rejection of claim 1.
9. Claims 10 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swartz et al. 5,524,861 in view of Vaisanen et al. 6,560,443 B1 as applied to claim 1 above, and further in view of Matsukata 6,540,606 B1.

Swartz et al. in view of Vaisanen et al. disclose an invention similar to that which is claimed in claims 10 and 17. See rejection of claim 1 for similarities.

Swartz et al. in view of Vaisanen et al. does not disclose that the wireless

communication apparatuses are activated and deactivated through triggering drivers associated with the wireless communication apparatuses by the software.

Matsukata discloses a portable device containing wireless communication means in which software activates and deactivates the wireless communication by triggering a driver. See column 9, lines 59-63, in reference to figure 8, disclosing "a software layer 102 for performing communications..., the software layer 102 comprising a wireless communication driver 104".

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Swartz et al. in view of Vaisanen et al. by including a drivers for the wireless communication apparatuses that are driven by the software. One would have been motivated to make such a change based on the teaching of Matsukata that such communications are included "for performing communications". Also, it is conventional and necessary for any wireless communication device to include a driver, and such driving is conventionally done by software:

10. Claims 7, 8, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swartz et al. 5,524,861 in view of Vaisanen et al. 6,560,443 B1 as applied to claim 1 above, and further in view of Sward et al. 6,545,643 B1.

In regard to claims 7 and 14, Swartz et al. in view of Vaisanen et al. discloses an invention similar to that which is claimed in claims 7 and 14. See rejection of claim 1 for similarities. Swartz et al. in view of Vaisanen et al. does not disclose that the display window is a light emitting diode with which different

colored light corresponds to different status of the wireless communication apparatus.

Sward et al. discloses in column 13, lines 38-43, "A functionally illuminated indicator is a display which, by way of simple illumination, specific illumination color, specific color combinations, intermittent illumination flashing patterns, color combination combined with flashing patterns or other illumination schemes, indicates an attribute of a device or system to which the indicator is connected." Sward et al. further discloses examples of functional illumination in which LED indicators of two or three different colors are used, including an example of an LED indicating wireless connection (see lines 46-60).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Swartz et al. in view of Vaisanen et al. by having the display window be a light emitting diode with which different colored light corresponds to different status of the wireless communication apparatus. One would have been motivated to make such a change based on the teaching of Sward et al. that a "functionally illuminated indicator is a display which, by way of simple illumination, specific illumination color, specific color combinations...indicates an attribute of a device or system to which the indicator is connected" and based upon Sward et al. further teaching examples of functional illumination in which LED indicators of two or three different colors are used, including an example of an LED indicating wireless connection (see lines 46-60).

11. In regard to claims 8 and 15, Swartz et al. in view of Vaisanen et al. and further in view of Matsukata discloses an invention similar to that which is disclosed in claims 8 and 5. See rejections of claims 1, 7 and 14 for similarities. Note the rejection of claims 7 and 14, in which Sward et al. teaches the use of "specific color combinations" to indicate "an attribute of a device or system". Swartz et al. in view of Vaisanen et al. and further in view of Matsukata does not disclose that the display window turns into blue when the bluetooth sytem is activated. However, using any particular color to indicate the activation of a particular system is a matter of design choice, and one of ordinary skill in the art would, when possible, choose a color (or indicator) to best correspond to what it represents.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Vij et al. 6,452,910 B1 discloses a bridging apparatus for interconnecting bluetooth and IEEE802.11 protocols.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laurel E LeFlore whose telephone number is (703) 305-8627. The examiner can normally be reached on Monday-Friday 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Mancuso can be reached on (703) 305-3885. The fax phone

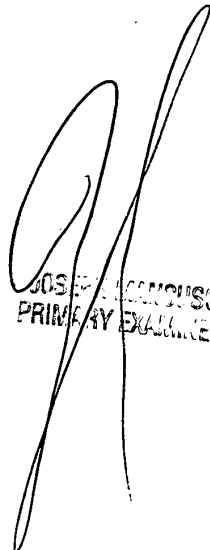
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number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

LEL



JOSEPH J. CONNOLLY
PRIMARY EXCHANGER